We claim:

1) A process for the preparation of acylphosphine oxide solids with melting points above room temperature, which comprises converting the acylphosphine oxide present following reaction or work-up as a continuous melt phase or disperse melt phase into the solid state of aggregation with externally exerted mechanical stress, shearing and/or internal agitation of the melt.

2) A process as claimed in claim 1, wherein the melt is liquid mixtures which comprise the acylphosphine oxide in question in an amount of at least 85% by weight.

3) A process as claimed in claim 1, wherein the dispersion of a acylphosphine oxide present in dispersed form is distributed as droplets with a diameter of at least 0.1 μm in another phase.

4) A process as claimed in any of the present claims, wherein the mechanical stress of the melt is caused by stirring, pumping, knife coating, scratching, treatment with ultrasound or a stream of gas, which is passed through the melt or directed onto its surface.

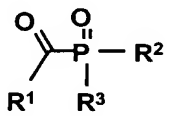
5) A process as claimed in any one of the preceding claims, wherein the melt is mixed with a solid.

6) A process as claimed in any of the preceding claims, wherein the melt is mixed with a liquid in which the melt is soluble in an amount of not more than 10% by weight.

7) A process as claimed in claim 6, wherein the melt is mixed with a liquid which is soluble in the acylphosphine oxide in an amount of not more than 10% by weight.

8) A process as claimed in claim 6 or 7, wherein the liquid is an ionic liquid.

9) A process as claimed in any of the present claims, wherein the acylphosphine oxide is one of the formula (I)



in which

R^1, R^2 and R^3, independently of one another, are C_1–C_{18}-alkyl, C_2–C_{18}-alkyl optionally interrupted by one or more oxygen and/or sulfur atoms and/or one or more substituted or unsubstituted imino groups, C_2–C_{18}-alkenyl, C_6– C_{12}-aryl, C_5-C_{12}-cycloalkyl or a five- to six-membered heterocycle having oxygen, nitrogen and/or sulfur atoms, where said radicals can each be substituted by aryl, alkyl, aryloxy, alkyloxy, heteroatoms and/or heterocycles, and

R^2 and R^3, independently of one another, may additionally be hydroxy, C_1-C_{18}-alkoxy optionally substituted by aryl, alkyl, aryloxy, alkyloxy, heteroatoms and/or heterocycles, or R^1-(C=O)-.

10) A process as claimed in any of the present claims, wherein the acylphosphine oxide is chosen from the group consisting of 2,4,6-trimethylbenzoyldiphenyl-phosphine oxide, bis(2,4,6-trimethylbenzoyl)phenylphosphine oxide and bis(2,6-dimethoxybenzoyl)-2,4,4-trimethylpentylphosphine oxide.